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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
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ART UNIT	PAPER NUMBER
1649	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/992,994	RASO, VICTOR	
	Examiner	Art Unit	
	STACEY MACFARLANE	1649	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *85 and 86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *85 and 86* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 85 and 86 have been amended as requested in the amendment filed on May 6, 2010. Following the amendment, claims 85 and 86 are pending in the instant application and are under examination in the instant office action.

2. Any objection or rejection of record, which is not expressly repeated in this action has been overcome by Applicant's response and withdrawn.

3. Applicant's arguments filed on May 6, 2010 have been fully considered but they are not deemed to be persuasive for the reasons set forth below.

Claim Objections

3. The objection of Claims 85 and 86 for having brackets around the recitation "SEQ ID NO: 3" has been corrected by the amendment and withdrawn.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. As currently amended, the rejection of Claims 85 and 86 rejected 35 U.S.C. 112, second paragraph, has been withdrawn.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. As amended, the rejection of Claims 85 and 86 stand as rejected under 35 U.S.C. 112, first paragraph, is withdrawn.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. As currently amended, the rejection of Claims 85 and 86 stand as rejected 35 U.S.C 101 is withdrawn.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 85 and 86 are rejected under 35 U.S.C. 102(b) as being anticipated by Cordell et al., US Patent 5,187,153 issued February 16, 1993, as evidenced by the reference from the Australian Proteome Analysis Facility, submitted as Exhibit A in Remarks filed 6/13/2008.

12. Claims 85 and 85 are drawn to a method for forming and detecting an immune complex comprising:

a) providing beta-amyloid in the presence of physiological levels or 60 mg/ml of human serum albumin;

b) forming an incubation mixture comprising the components of step a) and an antibody generated to the central region of beta-amyloid SEQ ID NO.: 3;

c) incubating the mixture of step b) under conditions appropriate for the binding of antibody to antigen to form an incubation mixture the immune complex; and

d) removing a sample from the incubation mixture of step c) and detecting the immune complex of beta-amyloid and an antibody generated to the central region of beta- amyloid SEQ ID NO.: 3 in the presence of physiological levels of human serum albumin.

13. The Australian Proteome Analysis Facility reference provided by Applicant s relied upon as evidence that serum human albumin is ~60mg/ml.

14. The “central region” of beta amyloid, as defined as SEQ ID NO: 3 of the instant claims, comprises residues 9-25 of the beta-amyloid peptide.

15. The Cordell et al. Patent teaches an in vitro method of diagnosing familial amyloidosis or Alzheimer’s disease comprising providing a serum sample from a patient which contains circulating beta-amyloid in the presence of human serum albumin, treating said sample to a "panel of antibodies which are specific against peptides derived from different regions" of beta amyloid (column 11, lines 60-68) and then serum samples are analyzed using solid-phase ELISA techniques on which a synthetic antigen

of beta-amyloid is bound to a solid support (column 13, lines 1-34). The Cordell Patent specifically discloses antibodies raised against the "beta amyloid core protein" were known in the art (column 2, lines 5-57), and specifically discloses antibodies binding to residues 1-10 and 8-17 within the central region required by the claims.

16. Thus, the method of the instant invention fails to distinguish over the in vitro methods known in the prior art.

17. Claims 85 and 86 are rejected under 35 U.S.C. 102(a) as being anticipated by Schenk et al. WO99/27944 published June 10, 1999, 6 days before the effective filing date of the instant application, as evidenced by the reference from the Australian Proteome Analysis Facility, submitted as Exhibit A in Remarks filed 6/13/2008.

18. Claims 85 and 85 are drawn to a method for forming and detecting an immune complex comprising:

a) providing beta-amyloid in the presence of physiological levels or 60 mg/ml of human serum albumin;

b) forming an incubation mixture comprising the components of step a) and an antibody generated to the central region of beta-amyloid SEQ ID NO.: 3;

c) incubating the mixture of step b) under conditions appropriate for the binding of antibody to antigen to form an incubation mixture the immune complex; and

d) removing a sample from the incubation mixture of step c) and detecting the immune complex of beta-amyloid and an antibody generated to the central region

of beta- amyloid SEQ ID NO.: 3 in the presence of physiological levels of human serum albumin.

19. The Australian Proteome Analysis Facility reference is relied upon as evidence that serum human albumin is ~60mg/ml.

20. SEQ ID NO: 3 of the instant claims comprises residues 9-25 of the beta-amyloid peptide.

21. The Schenk et al. WO publication discloses methods comprising administering an antigenic epitope of beta-amyloid *in vivo* to induce the formation of an immune response and detecting the resultant antibody-antigen immune complexes. Specifically, the Schenk publication teaches generating immune complexes against beta amyloid or fragments thereof (residues 1-5; 1-12; 13-28; and 1-40) *in vivo*. Thus, since the epitopes as disclosed by Schenk et al. fully encompass residues 9-25 (SEQ ID NO: 3) of beta-amyloid, and barring evidence within the instant disclosure as to specific residues to which the antibody of the instant claims binds (i.e. epitope mapping), then the antibodies of the Schenk prior art anticipate the "an antibody generated to the central region" as required by the invention. Additionally, since the immune response is generated *in vivo*, then the method as taught by Schenk occurs in the presence of physiological levels of serum albumin. And since the Schenk disclosure explicitly contemplates the method as performed in humans (page 12 lines 25-27), immune complexes formed in the presence of 60 mg/ml of human serum albumin are anticipated. Lastly, the Schenk et al. reference teaches removing a blood sample from immunized subjects and detecting the serum antibody titers specific for these beta-

amyloid central antigens (pages 54-55 and Figs. 13 and 14). Thus, the methods of the instant claims fails to distinguish over that disclosed within the prior art.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. Claims 85 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al., Proc Natl Acad Sci., 82:8729-8732, December 1985 (hereafter "Wong") and further in view of Schenk et al. (1999).

25. Wong teaches a method for forming an immune complex comprising providing an residues 1 – 10 of Aβ in vivo, forming an immune response which produces an antibody generated against said epitope and detecting the resulting antibodies in the serum.

26. However, the epitope as taught by Wong et al. only overlaps by one residue with the scope of "an antibody generated against the central region of beta-amyloid SEQ ID

NO: 3" (residues 9-25) as required by the instant claims. Thus, the Wong reference is largely deficient with respect to residues 11-25 of the "central region" required by the claims.

27. The Schenk et al. reference, however, teaches that only antigens encompassing residues 5-35 of beta-amyloid were capable of producing an immune response and resultant antibody-antigen immune complex (Table 5). Thus, it would have been obvious to one of ordinary skill in the art to combine the teachings of Schenk and Wong and generate antibodies to the central region of beta-amyloid. A skilled artisan would be motivated to do so since the Schenk art explicitly teaches that antigens to the N-terminus (residues 1-5) and to the C-terminus (residues 33-42) are incapable of mounting an immune response.

28. Thus, the method of the instant invention is rendered obvious over the combined teachings of the prior art.

Conclusion

23 No Claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STACEY MACFARLANE whose telephone number is (571)270-3057. The examiner can normally be reached on M-R 5:45 to 3:30, TELEWORK-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Stucker can be reached on (571) 272-0911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stacey MacFarlane
Examiner
Art Unit 1649

/Daniel E Kolker/
Primary Examiner, Art Unit 1649
July 19, 2010